

Amendments to the Claims:

This listing of the claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) An authoring method for use in creating an audiovisual product or content, comprising the steps of:

defining a plurality of components, the components implicitly representing functional sections of audiovisual content with respect to one or more raw content objects, and a plurality of transitions that represent movements between the plurality of components;

processing the plurality of components and the plurality of transitions to provide at least an intermediate data structure of nodes and links, where each node is associated with one or more of the raw content objects and the links represent movement from one node to another; and

creating an audiovisual product or content in a predetermined output format, using the raw content objects and the intermediate data structure of the nodes and the links.

2. (Original) An authoring method as claimed in claim 1, in which the step of processing comprises the step of producing an explicitly realised set of AV assets and respective nodes and links within the intermediate data structure in response to assessing the type of the one or more raw content objects.

3. (Currently Amended) An authoring method as claimed in ~~either of~~ claims 1 ~~and~~ 2 in which at least one node associated with one or more raw content objects comprises a reference to the one or more raw content objects.

4. (Currently Amended) An authoring method for use in creating an audiovisual product, comprising the steps of: defining a plurality of components, the components implicitly representing functional sections of audiovisual content with respect to one or more raw content objects, and a plurality of transitions that represent movements between the plurality of components;

expanding the plurality of components and the plurality of transitions to provide a set of explicitly realised AV assets and an expanded intermediate data structure of nodes and links, where each node is associated with an AV asset of the set and the links represent movement from one node to another and where at least one of the nodes being associated with reference to a predetermined raw content object (~~imported VTSs~~); and

creating an audiovisual product or content in a predetermined output format, using the AV assets, the expanded intermediate data structure of the nodes and the links, and the predetermined raw content object.

5. (Currently Amended) An authoring method for use in creating an audiovisual product or content, comprising the steps of: defining a plurality of components, the components implicitly representing functional sections of audiovisual content with respect to one or more raw content objects, and a plurality of transitions that represent movements between the plurality of components; expanding the plurality of components and the plurality of transitions to provide a set of explicitly realised AV assets and an expanded intermediate data structure of nodes and links, where each node is associated with an AV asset of the set and the links represent movement from one node to another; and creating a first portion of audiovisual product in a predetermined output format, using the AV assets and the expanded intermediate data structure of the nodes and the links, and creating a second portion of the audiovisual product using a predetermined one of the raw content objects (~~imported VTS~~).

6. (Original) An authoring method for use in creating an audiovisual product or content, comprising the steps of:

defining a plurality of components, the components implicitly representing functional sections of audiovisual content with respect to one or more raw content objects, and a plurality of transitions that represent movements between the plurality of components;

expanding the plurality of components and the plurality of transitions to provide a set of explicitly realised AV assets and an expanded intermediate data structure of nodes and links, where each node is associated with an AV asset of the set and the links represent movement from one node to another; and

creating an audiovisual product or content in a predetermined output format, using the AV assets and the expanded intermediate data structure of the nodes and the links, wherein the audiovisual product comprises data representing merged first and second video data.

7. (Currently Amended) The method of ~~any preceding~~ claim 1, wherein the defining step comprises defining at least one information component that comprises a reference to a raw content object.

8. (Original) The method of claim 7, wherein the reference denotes a file path to a location where the raw content object is stored.

9. (Currently Amended) The method of ~~any preceding~~ claim 1, wherein the defining step comprises defining at least one choice component comprising a reference to at least one raw content object, and at least one authoring parameter.

10. (Original) The method of claim 9, wherein the at least one authoring parameter is adapted to control a selection or modification of the at least one raw content object.

11. (Currently Amended) The method of claim 9 ~~or 10~~, wherein the at least one authoring parameter comprises a runtime variable available during playback of the audiovisual product.

12. (Currently Amended) The method of claim 9, ~~10 or 11~~, wherein the at least one authoring parameter comprises an authoring-only parameter that will not be available during playback of the audiovisual product.

13. (Currently Amended) The method of ~~any of~~ claims 9 ~~to~~ 12, wherein the choice component comprises a reference to a presentation template and a reference to at least one substitutable raw content object to be placed in the template according to the at least one authoring parameter.

14. (Currently Amended) The method of ~~any preceding~~ claim 1, wherein the defining step comprises defining at least one meta-component representing a set of components and transitions.

15. (Original) The method of claim 14, wherein the at least one meta-component is a procedurally defined representation of the set of components and transitions.

16. (Currently Amended) The method of ~~any preceding~~ claim 1, wherein each transition represents a permissible movement from one component to another component.

17. (Currently Amended) The method of ~~any preceding~~ claim 1, wherein each transition is associated with a triggering event.

18. (Original) The method of claim 17, wherein the triggering event is an event occurring during playback of the audiovisual product.

19. (Original) The method of claim 18; wherein the triggering event is receiving a user command, or expiry of a timer.

20. (Currently Amended) The method of ~~any preceding~~ claim 1, further comprising the step of checking expected conformance of the audiovisual product with the predetermined output format, using the plurality of components and the plurality of transitions.

21. (Original) The method of claim 20, wherein the predetermined output format is a hierarchical data structure having limitations on a number of objects that may exist in the data structure at each level of the hierarchy, and the checking step comprises predicting an expected number of objects at a level and comparing the expected number with the limitations of the hierarchical data structure.

22. (Currently Amended) The method of claim 20 or 24, wherein the checking step comprises predicting an expected total size of the audiovisual product, and comparing the expected total size against a storage capacity of a predetermined storage medium.

23. (Currently Amended) The method of ~~any preceding~~ claim 4, wherein the expanding step comprises, for each component, building one or more of the set of explicitly realised AV assets by reading and manipulating the one or more raw content objects.

24. (Currently Amended) The method of ~~any preceding~~ claim 23, wherein:
the defining step comprises defining at least one choice component comprising a reference to a plurality of raw content objects and at least one authoring parameter; and
the building step comprises:
selecting one or more raw content objects from amongst the plurality of raw content objects using the at least one authoring parameter; and
combining the selected raw content objects to form one of the AV assets.

25. (Original) The method of claim 24, comprising repeating the selecting and combining steps to automatically build a plurality of the explicitly realised AV assets from the one of the components.

26. (Currently Amended) The method of ~~any preceding~~ claim 4, wherein the expanding step comprises:
creating from each one of the plurality of components one or more explicitly realised AV assets to provide the set of AV assets;
creating the expanded intermediate data structure wherein each node represents one AV asset of the set; and
creating a set of links between the nodes.

27. (Currently Amended) The method of ~~any preceding~~ claim 26, wherein each transition is associated between first and second components, and creating the set of links

comprises evaluating each transition to create one or more links, each of the links being between a node created from the first component and a node created from the second component.

28. (Currently Amended) The method of ~~any preceding claim 4~~, wherein the expanding step comprises evaluating at least one of the transitions to create exit logic associated with at least one first node, evaluating one of the components to create entry logic associated with at least one second node, and providing a link between the first and second nodes according to the entry logic and the exit logic.

29. (Original) The method of claim 28, wherein at least one of the transitions is associated with a triggering event, and the expanding step comprises evaluating the triggering event to determine the exit logic associated with the at least first one node.

30. (Currently Amended) The method of ~~any preceding claim 4~~, further comprising the step of checking expected conformance of the audiovisual product with the predetermined output format, using the AV assets and the expanded intermediate data structure of nodes and links.

31. (Original) The method of claim 30, wherein the predetermined output format is a hierarchical data structure having limitations on a number of objects that may exist in the data structure at each level of the hierarchy, and the checking step comprises predicting an expected number of objects at a level and comparing the expected number with the limitations of the hierarchical data structure.

32. (Original) The method of claim 31, wherein the checking step comprises predicting an expected total size of the audiovisual product, and comparing the expected total size against a storage capacity of a predetermined storage medium.

33. (Currently Amended) The method of ~~any preceding claim 4~~, wherein the AV assets have a data format specified according to the predetermined output format.

34. (Currently Amended) The method of ~~any preceding~~ claim 4, wherein the AV assets each have a data format according to the predetermined output format, whilst the raw content objects are not limited to a data format of the predetermined output format.

35. (Currently Amended) The method of ~~any preceding~~ claim, wherein the predetermined output format is a DVD-video specification.

36. (Currently Amended) The method of any preceding claim 4, wherein the AV assets each comprise a video object, zero or more audio objects, and zero or more sub-picture objects.

37. (Currently Amended) The method of ~~any preceding~~ claim 4, wherein the AV assets each comprise at least one video object, zero to eight audio objects, and zero to thirty-two sub-picture objects, according to the DVD-video specification.

38. (Currently Amended) The method of ~~any preceding~~ claim 4, wherein the creating step comprises creating objects in a hierarchical data structure defined by the predetermined output format with objects at levels of the data structure, according to the intermediate data structure of nodes and links, and where the objects in the hierarchical data structure include objects derived from the explicitly realised AV assets.

39. (Currently Amended) The method of ~~any preceding~~ claim 4, wherein the predetermined output format is a DVD-video specification and the creating step comprises creating DVD-video structure locations from the nodes of the expanded intermediate data structure, placing the explicitly realised AV assets at the created structure locations, and substituting the links of the expanded intermediate data structure with explicit references to the DVD-video structure locations.

40. (Original) An authoring method for use in creating a DVD-video product, comprising the steps of:

creating a plurality of components representing parameterised sections of audiovisual content, and a plurality of transitions representing movements between components;

expanding the plurality of components and the plurality of transitions to provide a set of AV assets and an expanded data structure of nodes and links, where each node is associated with an AV asset of the set and the links represent movement from one node to another; and

creating a DVD-video format data structure from the AV assets, using the nodes and links, wherein the DVD-video format data structure comprises data representing merged first and second video data.

41. (Currently Amended) The method of claim 39 or 40, comprising creating at least one information component comprising a reference to an item of AV content.

42. (Original) The method of claim 40, comprising creating at least one choice component comprising a reference to at least one item of AV content, and at least one parameter for modifying the item of AV content.

43. (Original) The method of claim 42, wherein the choice component comprises a reference to a presentation template and a reference to at least one item of substitutable content to be placed in the template according to the at least one parameter.

44. (Currently Amended) The method of claim 42 or 43, wherein the choice component comprises at least one runtime variable available during playback of an audiovisual product in a DVD player, and at least one authoring parameter not available during playback.

45. (Currently Amended) The method of any of claims 40 to 44, comprising creating at least one meta-component representing a set of components and transitions.

46. (Currently Amended) The method of any of claims 40 to 45, wherein each transition represents a permissible movement from one component to another component, each transition being associated with a triggering event.

47. (Original) The method of claim 46, wherein a triggering event includes receiving a user command, or expiry of a timer.

48. (Currently Amended) The method of ~~any of~~ claims 40 to 47, wherein the expanding step comprises:

creating from each one of the plurality of components one or more AV assets to provide the set of AV assets;

creating the expanded data structure wherein each node represents one AV asset of the set; and

creating a set of links between the nodes.

49. (Currently Amended) The method of claim 42 or ~~any claim dependent thereon~~, wherein the expanding step comprises evaluating each choice component to create a plurality of AV assets according to each value of the at least one parameter.

50. (Original) The method of claim 49, wherein evaluating each choice component comprises creating entry logic associated with at least one node and/or evaluating at least one transition to create exit logic associated with at least one node, and providing a link between a pair of nodes according to the entry logic and the exit logic.

51. (Currently Amended) The method of ~~any of~~ claims 40 to 50, comprising the step of checking expected conformance with the DVD-video format using the created components and transitions.

52. (Currently Amended) The method of ~~any of~~ claims 40 to 51, comprising the step of checking expected conformance with the DVD-video format using the set of AV assets and the expanded data structure of nodes and links.

53. (Original) An authoring method for use in creating an audiovisual product according to a DVD-video specification, comprising the steps of:

generating a set of AV assets each comprising a video object, zero or more audio objects and zero or more sub-picture objects, and an expanded data structure of nodes and links, where

each node is associated with one AV asset of the set and the links represent navigational movement from one node to another; and

creating a DVD-video format data structure from the set of AV assets, using the nodes and links;

the method characterised by the steps of:

creating a plurality of components and a plurality of transitions, where a component implicitly defines a plurality of AV assets by referring to a presentation template and to items of raw content substitutable in the presentation template, and the plurality of transitions represent navigational movements between components; and

expanding the plurality of components and the plurality of transitions to generate the set of AV assets and the expanded data structure of nodes and links, wherein the set of AV assets and the expanded data structure of nodes and links comprise data representing merged first and second video.

54. (Currently Amended) A method as claimed in ~~any of claims 1 to 53~~ for merging first and second data associated with first and second DVD-Video zone directories respectively; the method comprising the steps of: identifying the registers used by at least one of the first and second data; allocating use of the registers to at least one of the first and second data according to said identifying; and creating data associated with video manager information (VMGI) of the DVD-video disc image data to accommodate at least one of the first and second DVD-Video zones.

55. (Original) A method as claimed in claim 54 comprising the step of collating the first and second data to produce DVD-Video data.

56. (Currently Amended) A method as claimed in ~~any of claims 54 to 55~~, in which at least one of the first and second data comprises at least one of a Group of Pictures, a Video Object, a Video Object Set, a Video Object Unit, a Cell, Program, Part_of_Title, Program Chain, Title, Navigation Pack, Video Pack, Audio Pack or DVD-Video disc image data.

57. (Currently Amended) A method as claimed in ~~any of~~ claims 54 to 56 in which the step of creating comprises the step of creating menu data of video manager menu data (video_ts.vob) to access at least one of the first and second data.

58. (Currently Amended) A method as claimed in ~~any of~~ claims 54 to 57, further comprising the step of establishing a backup copy of the data associated with the video manager information.

59. (Currently Amended) A method as claimed in claim 58 in which the step of establishing a backup copy of the data associated with the video manager information comprises the step of creating VMGI backup information (~~video_ts.bup~~).

60. (Currently Amended) A method as claimed in ~~any of~~ claims 54 to 59 in which the first and second data were created using respective, different, authoring tools or by different authors using the same tool.

61. (Currently Amended) A method as claimed in ~~any of~~ claims 54 to 60, further comprising, prior to the step of identifying, the step of determining whether or not at least one of the first and second data has associated copy protection.

62. (Currently Amended) A method as claimed in ~~any of~~ claim s 54 to 61 further comprising the step of creating the first data using a respective authoring tool and performing the steps of any preceding claim using that respective authoring tool.

63. (Currently Amended) A method as claimed in ~~any of~~ claims 1 to 53 for merging first and second video data (VTSs); the method comprising the steps of:

assessing potential use of a predetermined resource by at least one of the first and second video data;

allocating use of the predetermined resource to at least one of the first and second video data according to the step of assessing;

collating the first and second video data to create DVD-Video data; and

creating data associated with video manager information (VMGI) of the DVD-Video data to accommodate at least one of the first and second video data.

64. (Original) A data processing method as claimed in claim 63, in which the predeterminable resource is at least one of GPRM registers, titles and part titles.

Claims 65 and 66 (Cancelled).

67. (Currently Amended) A computer program comprising computer executable instructions for implementing a method or system as claimed in ~~any preceding~~ claim 1.

68. (Original) A product comprising a storage medium storing a computer program as claimed in claim 67.

69. (Currently Amended) A storage medium storing an audiovisual product authored according to the method of ~~any of~~ claims 1 to 65.

70. (Currently Amended) An optical disk having stored thereon an audiovisual product authored according to the method of ~~any of~~ claims 1 to 65.

Claim 71 (Cancelled).